

CLAIMS

What is claimed is:

1. A method to translate a speech signal into text, comprising:
limiting a language vocabulary to a subset of the language vocabulary;
separating said subset into at least two contexts;
associating the speech signal with at least one of said at least two contexts; and
performing speech recognition within at least one of said at least two contexts, such that the speech signal is translated into text.
2. Said method of claim 1, further comprising:
applying a constraint filter to at least one context of said at least two contexts to restrict a size of said subset associated with said at least one context.
3. Said method of claim 2, wherein said constraint filter is at least one of a set of patients and a set of frequently prescribed drugs.
4. Said method of claim 2, wherein said performing speech recognition is biased using said constraint filter.

5. Said method of claim 1, wherein said subset is selected from the group consisting of a medical subset, an automotive subset, a construction subset, and an educational subset.
6. A method of designing a speaker independent voice recognition (SIVR) speech-enabled (SE) user interface (UI) , comprising:
 - defining a subject matter to base the UI on;
 - designating a first allowable vocabulary for a first SE field of the UI;
 - designating a second allowable vocabulary for a second SE field of the UI;
 - and
 - designing a constraint filter for at least one of said first allowable vocabulary and said second allowable vocabulary.
7. Said method of claim 6, wherein said subject matter is a medical subject matter.
8. Said method of claim 7, wherein said medical subject matter is characterized by at least one of; a medical application, and a medical setting.
9. A method of translating a speech signal into text, comprising:
 - identifying at least two anchor points in an audio signal record, wherein a segment of the audio signal is contained between the at least two anchor points;

generating sets of phonemes, using a subset of a language vocabulary,
that correspond to the segment of the audio signal contained
between the at least two anchor points;
rating the sets of phonemes for accuracy as an individual word and as a
part of a larger word;
combining accuracy ratings from said rating;
ranking the sets of phonemes according to said rating; and
selecting the word or part of the word corresponding to the segment of the
audio signal contained between the at least two anchor points.

10. Said method of claim 9, wherein said subset of the language vocabulary is
separated into a plurality of contexts and said generating is performed within a
context of the plurality of contexts.

11. Said method of claim 10, wherein the context is dynamically changed
during said generating.

12. Said method of claim 9, further comprising identifying a new anchor point,
such that said generating is performed on a segment of the audio signal defined
with the new anchor point.

13. A speech translation method, comprising:

generating a first phoneme from a first audio signal using a first context of
a language vocabulary;
switching said first context to a second context; and
generating a second phoneme from a second audio signal using said
second context of the language vocabulary.

14. Said method of claim 13, wherein real-time speech translation is maintained.

15. A speech translation method, comprising:
generating a first phoneme from an audio signal using a first context of a
language vocabulary;
generating a second phoneme from the audio signal using a second
context of the language vocabulary; and
selecting a word or part of a word from the first phoneme and the second
phoneme that represents a translation of the audio signal.

16. Said method of claim 15, wherein real-time speech translation is maintained.

17. Said method of claim 15, wherein said first context is switched to said second context before said generating the second phoneme.

18. A computer readable medium containing executable computer program instructions, which when executed by a data processing system, cause the data processing system to perform a method to translate a speech signal into text, comprising:

limiting a language vocabulary to a subset of the language vocabulary;
separating said subset into at least two contexts;
associating the speech signal with at least one of said at least two contexts; and
performing speech recognition within at least one of said at least two contexts, such that the speech signal is translated into text.

19. The computer readable medium as set forth in claim 18, wherein the method further comprises;

applying a constraint filter to at least one context of said at least two contexts to restrict a size of said subset associated with said at least one context.

20. The computer readable medium as set forth in claim 19, wherein said constraint filter is at least one of a set of patients, and a set of frequently prescribed drugs.

21. The computer readable medium as set forth in claim 18, wherein said performing speech recognition is biased using said constraint filter.

22. The computer readable medium as set forth in claim 18, wherein said subset is selected from the group consisting of a medical subset, an automotive subset, a construction subset, and an educational subset.

23. A computer readable medium containing executable computer program instructions, which when executed by a data processing system, cause the data processing system to perform a method of designing a speaker independent voice recognition (SIVR) speech-enabled (SE) user interface (UI) comprising:

- defining a subject matter to base the UI on;
- designating a first allowable vocabulary for a first SE field of the UI;
- designating a second allowable vocabulary for a second SE field of the UI;
- and
- designing a constraint filter for at least one of said first allowable vocabulary and said second allowable vocabulary.

24. The computer readable medium as set forth in claim 23, wherein said subject matter is a medical subject matter.

25. The computer readable medium as set forth in claim 24, wherein said medical subject matter is characterized by at least one of; a medical application, and a medical setting.

26. A computer readable medium containing executable computer program instructions, which when executed by a data processing system, cause the data processing system to perform a method of translating a speech signal into text comprising:

identifying at least two anchor points in an audio signal record, wherein a segment of the audio signal is contained between the at least two anchor points;

generating sets of phonemes, using a subset of a language vocabulary, that correspond to the segment of the audio signal contained between the at least two anchor points;

rating the sets of phonemes for accuracy as an individual word and as a part of a larger word;

combining accuracy ratings from said rating;

ranking the sets of phonemes according to said rating; and

selecting the word or part of the word corresponding to the segment of the audio signal contained between the at least two anchor points.

27. The computer readable medium as set forth in claim 26, wherein the subset of the language vocabulary is separated into a plurality of contexts and said generating is performed within a context of the plurality of contexts.

28. The computer readable medium as set forth in claim 27, wherein the context is dynamically changed during said generating.

29. The computer readable medium as set forth in claim 26, wherein the method further comprises identifying a new anchor point, such that said generating is performed on a segment of the audio signal defined with the new anchor point.

30. A computer readable medium containing executable computer program instructions, which when executed by a data processing system, cause the data processing system to perform a speech translation method comprising:

generating a first phoneme from a first audio signal using a first context of a language vocabulary;

switching said first context to a second context; and

generating a second phoneme from a second audio signal using said second context of the language vocabulary.

31. The computer readable medium as set forth in claim 30, wherein real-time speech translation is maintained.

32. A computer readable medium containing executable computer program instructions, which when executed by a data processing system, cause the data processing system to perform a speech translation method comprising:

generating a first phoneme from an audio signal using a first context of a language vocabulary;

generating a second phoneme from the audio signal using a second
context of the language vocabulary; and
selecting a word or part of a word from the first phoneme and the second
phoneme that represents a translation of the audio signal.

33. The computer readable medium as set forth in claim 32, wherein real-time
speech translation is maintained.

34. The computer readable medium as set forth in claim 32, wherein said first
context is switched to said second context before said generating the second
phoneme.

35. An apparatus to translate a speech signal into text comprising:
a processor to receive the speech signal;
a memory coupled with said processor; and
a computer readable medium containing executable computer program
instructions, which when executed by said apparatus, cause said
apparatus to perform a method:
limiting a language vocabulary to a subset of the
language vocabulary;
separating said subset into at least two contexts;
associating the speech signal with at least one of said
at least two contexts; and

performing speech recognition within at least one of
said at least two contexts, such that the speech signal
is translated into the text.

36. Said apparatus of claim 35, further comprising an information display to
display the text resulting from translation of the speech signal.

37. Said apparatus of claim 35, further comprising a wireless interface to allow
communication of at least one of the speech signal and the text.

38. Said apparatus of claim 35, wherein said apparatus is at least one of hand
held, and installed in a vehicle.

39. Said apparatus of claim 35, wherein said apparatus to communicate with
the Internet.

40. An apparatus comprising:
a signal embodied in a propagation medium, wherein said signal results
from generating a first phoneme from an audio signal using a first
context of a language vocabulary and switching the first context to
a second context and generating a second phoneme from the audio
signal using the second context of the language vocabulary.

41. Said apparatus of claim 40, further comprising:

a business entity, said business entity being at least one of a pharmacy, a pharmaceutical company, a hospital, an insurance company, a user defined health care partner, a laboratory, an automotive company, a financial services company, a bank, an investment company, an accounting firm, a law firm, a grocery company, and a restaurant services company, wherein said business entity to receive said signal.

42. An apparatus comprising:

an information transmission system to receive and convey a signal,

wherein said signal results from generating a first phoneme from an audio signal using a first context of a language vocabulary and switching the first context to a second context and generating a second phoneme from the audio signal using the second context of the language vocabulary.

43. Said apparatus of claim 42, further comprising:

a business entity, said business entity being at least one of; a pharmacy, a pharmaceutical company, a hospital, an insurance company, a user defined health care partner, a laboratory, an automotive company, a financial services company, a bank, an investment company, an accounting firm, a law firm, a grocery company, and a restaurant services company, wherein said business entity to receive said signal from said information transmission system.

44. An apparatus comprising:

a signal embodied in a propagation medium, wherein said signal results from limiting a language vocabulary to a subset of the language vocabulary, separating said subset into at least two of contexts, associating the speech signal with at least one of said at least two contexts, and performing speech recognition within at least one of said at least two contexts, such that the speech signal is translated into text.

45. Said apparatus of claim 44, further comprising:

a business entity, said business entity being at least one of; a pharmacy, a pharmaceutical company, a hospital, an insurance company, a user defined health care partner, a laboratory, an automotive company, a financial services company, a bank, an investment company, an accounting firm, a law firm, a grocery company, and a restaurant services company, wherein said business entity to receive said signal .

46. An apparatus comprising:

an information transmission system to receive and convey a signal, wherein said signal results from limiting a language vocabulary to a subset of the language vocabulary, separating said subset into at least two contexts, associating the speech signal with at least one

of said at least two contexts, and performing voice recognition within at least one of said at least two contexts, such that the speech signal is translated into text.

47. Said apparatus of claim 46, further comprising:

a business entity, said business entity being at least one of; a pharmacy, a pharmaceutical company, a hospital, an insurance company, a user defined health care partner, a laboratory, an automotive company, a financial services company, a bank, an investment company, an accounting firm, a law firm, a grocery company, and a restaurant services company, wherein said business entity to receive said signal from said information transmission system.